In the Claims:

Please amend the claims as follows:

1. (currently amended) A method for non-contact determination of sought properties of an object to be measured, by using electromagnetic induction, the method comprising:

generating ~~an~~ a first electromagnetic field in a first transmitter coil placed on ~~one~~ a first side of the object to be measured,

detecting the ~~magnetic~~ first electromagnetic field penetrating through the object to be measured by a first receiver coil placed on ~~the other~~ a second side of the object to be measured,

placing a first control coil near the first transmitter coil,

generating a change in the ~~magnetic~~ first electromagnetic field of the first transmitter coil,

detecting the field change in the first control coil,

detecting the field change in the first receiver coil,

determining ~~the~~ a first difference in time for the detection of the field change in the first control coil and in the first receiver coil, respectively,

determining ~~the~~ a time of penetration ~~(T2)~~ through the object to be measured, and

determining ~~therefrom~~ from the time of penetration the thickness or electrical conductivity of the object to be measured.

2. (previously amended) The method according to claim 1, wherein the control coil is located on the same side as the transmitter coil in relation to the object to be measured.

3. (currently amended) The method according to claim 1, wherein the time of penetration ~~(T2)~~ through the object to be measured is determined based on the time ~~(t5)~~ for detection of the field change in the control coil, and the time ~~(t4)~~ for detection of the field change in the receiver coil.

4. (currently amended) The method according to claim 1, further comprising:

generating a second electromagnetic field in a second transmitter coil placed on the second side of the object to be measured;

detecting the second electromagnetic field penetrating through the object to be measured by a second receiver coil placed on the first side of the object to be measured;

placing a second control coil near the second transmitter coil;

generating a change in the second electromagnetic field of the second transmitter coil;

detecting the field change in the second control coil;

detecting the field change in the second receiver coil; and

determining a second difference in time for the detection of the field change in the second control coil and in the second receiver coil, respectively;

wherein the calculation of the ~~delay~~ time ~~(T2)~~ of penetration through the object to be measured is equal to (t4ba+t4ab-t5aa-t5bb)/2, where t4ba, t4ab, t5aa and t5bb represent differences in determined times for the field changes between the first control coil, first receiver coil, second control coil and second receiver coil.

5. (currently amended) The method according to claim 1, wherein the voltage ~~(S4)~~ induced in the receiver coil is measured at two different times after the magnetic field in the

transmitter coil has suddenly changed.

6. (previously amended) The method according to claim 1, wherein the thickness or electrical conductivity of the object to be measured is calculated on the basis of the time of penetration and the maximum voltage induced in the receiver coil.

7. (previously amended) The method according to claim 1, wherein the thickness or electrical conductivity of the object to be measured is calculated on the basis of the reciprocal value of the product of the square of the maximum voltage induced in the receiver coil and the time of penetration.

8. (previously amended) The method according to claim 1, wherein the voltage induced in the receiver coil is integrated and that the thickness or electrical conductivity of the object to be measured is calculated on the basis of this integrated signal.

9. (previously amended) The method according to claim 1, wherein the voltage induced in the receiver coil is integrated and that the thickness or electrical conductivity of the object to be measured is calculated on the basis of the value of this integrated signal at at least two different times.

10. (currently amended) A measuring device for non-contact determination of one or more sought properties of an object to be measured, comprising:

at least one transmitter coil and at least one receiver coil located spaced from each other,

a magnetic field generator configured to generate ~~means for generating~~ a changeable magnetic field in the transmitter coil,

a detector configured to detect ~~means for detecting~~ a voltage induced in the receiver coil,

a control coil arranged to detect a change in the magnetic field generated in the transmitter coil,

a detector configured ~~means~~ to detect ~~the~~ a difference in time between ~~the~~ signals from the control coil and the receiver coil which are generated by the change in magnetic field in the transmitter coil,

a detector configured ~~means arranged~~ to detect ~~the~~ a maximum voltage induced in the receiver coil, and

a calculator configured ~~means~~ to calculate, from ~~these values,~~ said difference in time and said maximum voltage, the thickness or electrical conductivity of the object to be measured.

11. (currently amended) The measuring device according to claim 10, wherein the control coil is arranged on ~~the~~ a same side of the object to be measured as the transmitter coil.

12. (currently amended) The measuring device according to claim 10, further comprising:

an integrator to integrate ~~the~~ a voltage signal induced in the receiver coil.

13. (previously amended) The measuring device according to claim 10, further comprising:

circuits arranged to measure the voltage induced in the receiver coil at two different times

after the time for interruption in the transmitter coil.

14. (previously amended) A computer program product, comprising:

a computer readable medium; and

data code recorded on the computer readable medium executable by a processor for carrying out the steps of

generating an electromagnetic field in a transmitter coil, placed on one side of the object to be measured,

detecting the magnetic field penetrating through the object to be measured by a receiver coil placed on the other side of the object to be measured,

placing a control coil near the transmitter coil,

generating a change in the magnetic field of the transmitter coil,

detecting the field change in the control coil,

detecting the field change in the receiver coil,

determining the difference in time for the detection of the field change in the control coil and in the receiver coil, respectively,

determining the time of penetration through the object to be measured, and

determining therefrom the thickness or electrical conductivity of the object to be measured.

15. (cancelled)

16. (previously amended) The computer program according to claim 14, wherein the

data code if further for carrying out the step of at least partly transmitting the data code via a network.

17. (cancelled)

18. (previously presented) The method according to claims 1, wherein the sought properties comprise a geometrical dimension of the object or an electrical conductivity of the object.

19. (previously presented) The measuring device according to claim 10, wherein the properties to be measured comprise a geometrical dimension or an electrical conductivity of the object.